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DATA CHALLENGE OF PRINCIPAL ADVERSE IMPACT INDICATORS

Sustainable Finance Regulation, what is down the road for asset managers?

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Joost van Scherpenzeel | CubeMatch Benelux

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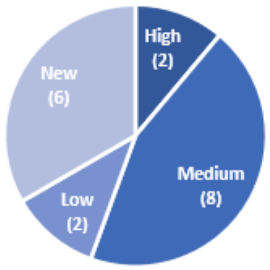
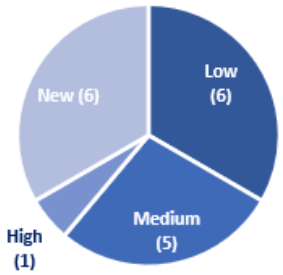
KEY TAKEAWAYS

Data sourcing difficulty for mandatory indicators



Variability in data vendors for mandatory indicators



These challenges appear to be more prevalent for voluntary indicators, which are applicable for 'dark green' funds.

Scope and timeline

The scope of Sustainable Finance Regulation extends to a wide range of financial market participants in the European Union, with the United Kingdom introducing parallel disclosures in the near future. The first report is due on the 30th June 2023. The second report is due on the 30th June 2024 and facilitates comparison across reference periods.

Reporting requirements

Financial market participants are required to pre-contractually disclose how sustainability risks impact investment decisions and returns. On entity level, information on the integration of sustainability risks and principal adverse impacts should be disclosed on websites. On product level, websites should disclose when products are marketed as 'light green' or 'dark green'.

Data challenge

Difficulties in sourcing of adverse impact data and limited variability in data vendors (as shown in the pie charts above) will likely result in substantial challenges with respect to data gathering. At the time of writing, standards and methods for the to-be-sourced attributes are still in their infancy.

Solution-based approach

Obtaining the highest possible data coverage:

- Using comprehensive estimations and proxy approach for historic and current data gathering.
- Collecting and defining of data at the source.
- Implementing an interface with suitable data vendors.

Disclosing of efforts to obtain the level of data coverage and establishing sound management structures to facilitate a proper audit trail:

- Drafting Sustainability and Climate Risk Policies.
- Updating Remuneration Policies, Engagement Policies and disclosures towards end-investors.
- Creating awareness of data challenges and reporting requirements.
- Holistic approach in terms of stakeholder management.

SCOPE, IMPLEMENTATION AND TIMELINE

Over recent years, the European Union has made a political decision which ensures that Environmental, Social and Governance (ESG) factors are considered when making investment decisions in the financial sector. Through Sustainable Finance Regulation (SFR), the European Union aims to stimulate long-term investments in sustainable economic activities. These regulations aim to help reach sustainability targets as set out in the Paris Agreement. Additionally, these regulations aim to create transparency and comparability of sustainability profiles of financial instruments for their end-investors.

SCOPE

The scope of Sustainable Finance Regulation extends to the following financial market participants: Portfolio Management, Alternative Investment Funds (AIF), Insurance-Based Investment Products (IBIP), Pension Products, Pension Schemes, Pan-European Personal Pension Product (PEPP) Providers and Undertakings for Collective Investment in Transferable Securities (UCITS). This regulation is thereby applicable for nearly everyone in the financial industry. Although regulation imposed by the European Union does not automatically apply to financial market participants in the United Kingdom, it is expected that the United Kingdom will impose ESG-driven requirements soon. In fact, on the 30th of June 2021 the United Kingdom Financial Conduct Authority (FCA) released a consultation on proposals to introduce a parallel disclosure framework that exceeds Sustainable Finance Disclosure Regulation[1]. More specifically, non-EU financial market participants that register any of their funds for marketing in an EU member state or manage EU-domiciled funds (even if those are not privately placed in the EU) remain subject to the aforementioned regulation[2].

TAXONOMY AND IMPLEMENTATION

Sustainable Finance Regulation is implemented through the European Union Taxonomy, which ensures that regulation is 'speaking the same language' for all relevant financial market participants in terms of sustainability and criteria for sustainability characteristics of economic activity. In order to determine the eligibility and alignment of economic activities to Sustainable Finance Regulation, the phases outlined in table 1 are adopted.

Table 1: Elements and purpose

Phase	Purpose
Eligibility	Introducing performance criteria to determine which economic activities substantially contribute to the targets set out in the Green Deal, for each included sector.
Alignment	Addressing the question if a certain economic activity could be classified as sustainable, according to the following criteria: ▪ Assessment of substantial contribution towards sustainability targets. ▪ Do No Significant Harm clause. ▪ Assessment of compliance with minimum social safeguards.
Reporting	Reporting based on Key Performance Indicators (i.e., Green Asset Ratio), thereby facilitating transparency and comparability of sustainability profiles.

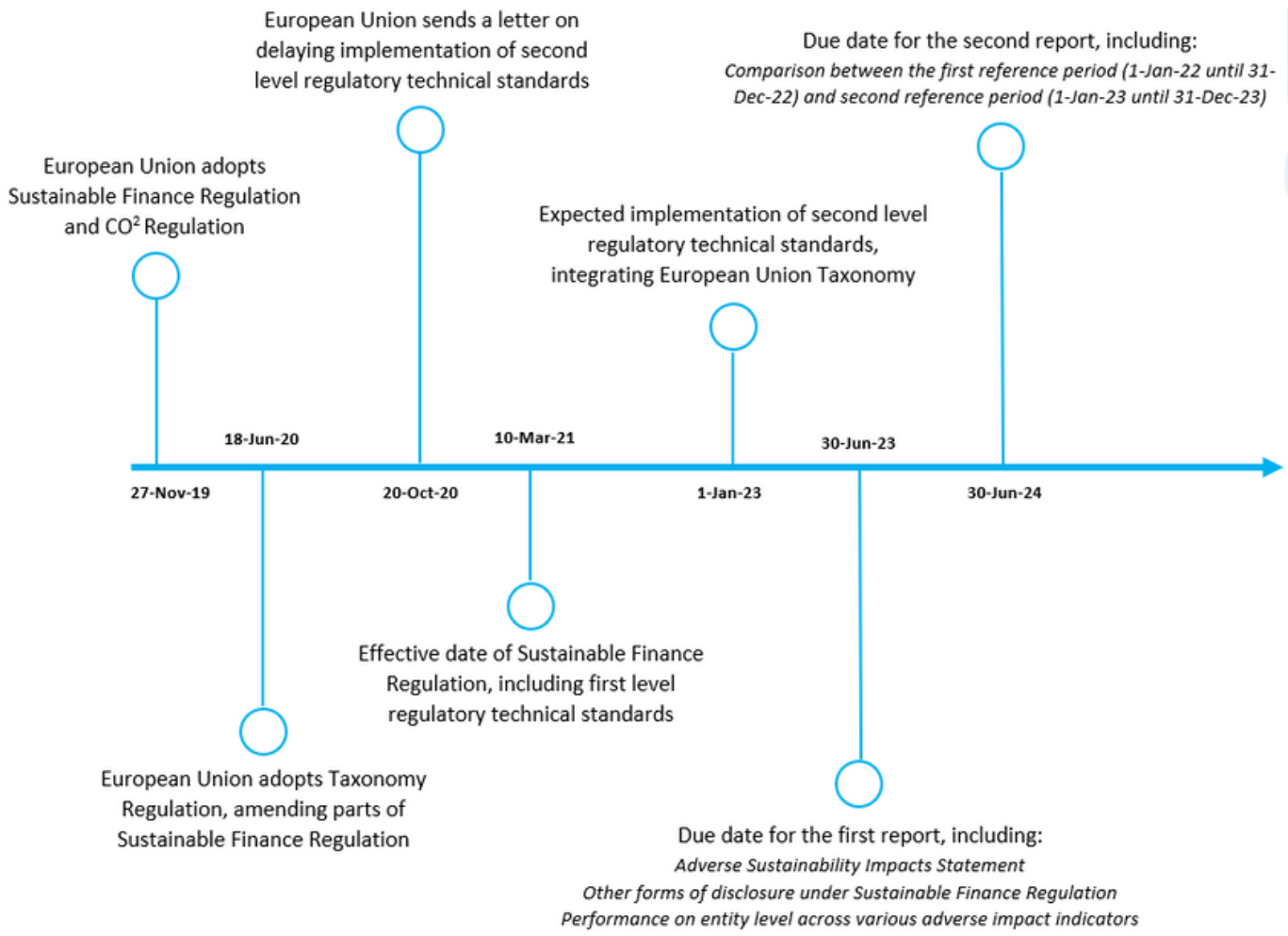
Prior to implementation of the first level of regulatory technical standards, firms are predominantly using several voluntary standards to report on sustainability. These voluntary standards are usually designed by the Global Reporting Initiative (GRI), Climate Disclosure Standards Board (CDSB), Sustainability Accounting Standards Board (SASB) or Carbon Disclosure Project (CDP). Although most financial market participants are aware of these regulations, it is believed that a radical change to the system would result in many impacts that would spread across the entire industry[3]. Therefore, we should look forward to the implications of Sustainable Finance Regulation for the coming years.

"This Sustainable Financial Disclosure Regulation (SFDR) lays down harmonized rules for financial market participants and financial advisers on transparency with regards to the integration of sustainability risks and the consideration of adverse sustainability impacts in their processes and the provision of sustainability-related information with respect to financial products[4]."

TIMELINE

As portrayed in the timeline on the next page, the first level of Regulatory Technical Standards (RTS) has been effective since the 10th of March 2021. Key disclosures of these standards are detailed on the next page. Initially, the effective date of second level regulatory technical standards was planned for the 1st of January 2022. Due to the level of detail, necessity of smooth implementation and other delays, this was pushed back six months.

On the 1st of December 2021, the European Commission announced a further delay for second level regulatory technical standards until the 1st of January 2023. It is unclear what this means for the third level of regulatory technical standards, which aim to further incorporate EU Taxonomy.



KEY DISCLOSURES AND REPORTING REQUIREMENTS

IMPLEMENTATION

Sustainable Finance Regulation is implemented through various related regulations. Greenhouse gas (GHG) emissions are reported in the context of Non-Financial Disclosure Regulation, whereas it is expected that specific implementation of ESG factors is included in the EBA Guidelines on Loan Origination and Monitoring and ECB Guide on Climate-related and Environmental Risks. On a product level, integrating sustainability risks and adverse impacts appear to be a challenge for financial market participants. Appendix I outlines Sustainable Finance Regulations that are prioritised at the time of writing and regulations that are under development.

The regulation is primarily written for funds whilst pension funds are predominantly working with mandates[5]. Therefore, Sustainable Finance Regulation requires intensive collaboration and communication between the asset managers and funds that hold a mandate.

Moreover, creating an overview of how various regulations are related to Sustainable Finance Regulation (for example by utilising mindmaps) could prove to be beneficial down the road.
The regulation differentiates between financial market participants which promote social and/or environmental characteristics (i.e., 'light green' or 'Article 8' funds[6]) and which have a sustainable investment objective (i.e.: 'dark green' or 'Article 9' funds[7]). Sustainable Finance Regulation outlines the following key disclosure topics for these market participants[8]:

Adverse impact indicators

Products must identify the impact indicators used to measure the attainment of social or environmental characteristics promoted or the sustainable investment objective. To be classified as sustainable, an economic activity must substantially contribute to environmental objectives, while complying with each of the following criteria:

- Not significantly harming any of the other environmental objectives
- Complying with the Technical Screening Criteria (TSC) with respect to all environmental objectives (e.g., compliance with national thresholds for noise limits, etc.)
- Complying with minimum social and governance safeguards in Taxonomy Regulations (e.g., labour policies, audits of suppliers or subcontractors, etc.).

Binding elements of the investment strategy

Products must explain the criteria used to select the investments to attain each of social or environmental characteristics or sustainable investment objective.

Strategy implementation

Explanation of how the strategy is implemented in the investment process on a continuous basis.

Good governance practices

Statement of the policy to assess good governance practices at the investee companies.

Asset allocation

Products must disclose the planned asset allocation and the proportion of investments that are not aligned with social or environmental characteristics promoted or do not contribute to the sustainable investment objective, as well as explain their purpose and if there are any minimum social or environmental safeguards. 'Dark green' or 'Article 9' funds must include additional detail on how the proportion and use of those investments does not negatively affect the sustainable investment objective.

Derivatives

How derivatives are used (if at all) to attain the social or environmental characteristics or sustainable investment objective.

Sustainable investments

Products must describe how sustainable investments contribute to and do not significantly harm any sustainable investment objective.

Principal Adverse Impacts

How these affect sustainability factors must be disclosed.

Carbon emissions

'Dark green' or 'Article 9' products are required to state if they have an objective of reducing carbon emissions.

REPORTING REQUIREMENTS

Financial market participants are required to disclose sustainability related information pre-contractually, on their website and in their periodic reporting. These disclosure requirements, differentiated between entity level and product level, are detailed in table 2[9].

Pre-contractually, sustainability disclosures effectively complement other disclosures required by other regulatory frameworks (i.e., AIFMD, MiFID, etc.). Sustainability information could therefore be part of a firm's offering documents or documentation that is provided to prospects prior to their investment decision.

Moreover, sustainability information is required to be published on the website of EU firms and non-EU firms marketing their fund in the EU. Disclosures in periodic reporting detail if and how the fund promotes environmental or social characteristics[6] (i.e., 'light green' financial products), as well as the sustainability-related impact of the fund[7] (i.e., 'sustainable investment' or 'dark green' financial products).

Of note, for Alternative Investment Funds the disclosures are made in the annual report whereas financial market participants subject to MiFID will include these in their periodic reports.

Table 2: Reporting requirements on entity and product level

Where information should be reported	Entity level		Product level
	Financial market participants must disclose:	Financial advisors must disclose:	Financial market participants must disclose:
Website	Information on the integration of sustainability risks in their investment decision-making process (and if not relevant, why) When principal adverse sustainability impacts are being considered, statements with their due diligence policies (and if not relevant, why)[10]. Principal adverse impacts statement (Annex I).	Information on the integration of sustainability risks in their investment or insurance advice (and if not relevant, why).	Information on products pursuing sustainable objectives ('dark green') or promoting environmental and social characteristics ('light green').
Pre-contractual disclosures	Manner in which sustainability risks are integrated into their investment decisions. Likely impact of sustainability risks on the return of financial products.	How sustainability risks are integrated into their investment or insurance advice. Result of the assessment of likely impacts of sustainability risks on the return of financial products.	
Periodic reporting (e.g.: annual reports)			Information on how environmental and social objectives have been met[11].

[10] This disclosure is compulsory for financial market participants with more than 500 employees.

[11] To note, additional requirements on principal adverse sustainability impacts may be relevant here.

DATA SOURCING DIFFICULTY FOR PRINCIPAL ADVERSE IMPACT INDICATORS

PRINCIPAL ADVERSE IMPACT INDICATORS

Principal adverse impact indicators should be seen as negative and (potentially) material affects on the environment or society that result from investment decisions or financial advice by financial market participants. As detailed by BIQH[12] and Deloitte[13], these adverse impact indicators are part of the Principal Adverse Sustainability Statement (PAIS) and are reported annually on an entity level (with calculations at least four times a year). The eighteen mandatory indicators are divided in environment related indicators and in social indicators (e.g.: employee, respect for human rights, anti-corruption, and anti-bribery). Specifically, the mandatory indicators are divided in fourteen indicators regarding investee companies, two indicators regarding supranationals and two indicators regarding real estate. Financial market participants are required to select one environmental indicator and one social indicator out of a list of forty-six optional indicators.

Calculating these indicators could result in vast data challenges, specifically regarding gathering and combining data from multiple sources (because of a current lack of comparable, reliable, and publicly available data). As reported by Irish Funds (2020)[14] in their survey of ESG data vendors, it appears that these data challenges primarily concern greenhouse gas emissions data for investee companies.

These challenges are not limited to mandatory adverse impact indicators, these apply to optional indicators as well (as outlined in Appendix II). It is important to note that this survey was conducted prior to the effective date of Sustainable Finance Regulation and sourcing difficulties and variability in data vendors could have changed over time[14]. However, it is expected that these challenges will continue to exist until the Corporate Sustainability Reporting Directive (which amends the Non-Financial Reporting Directive) is implemented.

Table 3: Environmental indicators applicable to investments in investee companies

	Principal Adverse impact indicator	Mandatory or optional?	Data sourcing difficulty[15]	Variability in data vendors[16]
Greenhouse gas emissions	Greenhouse gas emissions	Mandatory	Medium	Low
	Greenhouse gas footprint	Mandatory	Medium	Low
	Greenhouse gas intensity	Mandatory	High	Low
	Solid fossil fuels	Mandatory	Medium	Medium
	Non-renewable energy	Mandatory	Medium	Low
	Energy consumption intensity per high impact sector	Mandatory	Medium	Low
Biodiversity	Biodiversity negative impact	Mandatory	Low	High
Water	Emissions to water	Mandatory	Medium	Medium
Waste	Hazardous waste	Mandatory	Medium	Medium

Table 4: Social indicators applicable to investments in investee companies

	Principal Adverse impact indicator	Mandatory or optional?	Data sourcing difficulty[15]	Variability in data vendors[16]
Social and employee matters	Violations of United Nations Global Compact principles and Organization for Economic Cooperation and Development (OECD) Guidelines for Multinational Enterprises	Mandatory	New	New
	Lack of processes and compliance mechanisms to monitor compliance with United Nations Global Impact principles and OECD Guidelines for Multinational Enterprises	Mandatory	New	New
	Gender pay gap	Mandatory	High	Low
	Board gender diversity	Mandatory	Low	Medium
	Exposure to controversial weapons (i.e., antipersonnel mines, cluster munitions, chemical weapons, and biological weapons)	Mandatory	Medium	Medium

[15] Defined as the data vendor's assessment about data sourcing difficulty for each data point.

[16] Defined as the extent of variability in feedback from data vendors for each data point.

Table 5: Indicators applicable to investments in sovereigns and supranationals

	Principal Adverse impact indicator	Mandatory or optional?	Data sourcing difficulty[15]	Variability in data vendors[16]
Environmental	Greenhouse gas intensity of investee countries	Mandatory	New	New
	Investee countries subject to social violations	Mandatory	New	New

Table 6: Indicators applicable to investments in real estate assets

	Principal Adverse impact indicator	Mandatory or optional?	Data sourcing difficulty[15]	Variability in data vendors[16]
Fossil fuels	Exposure to fossil fuels through real estate assets	Mandatory	New	New
Energy efficiency	Exposure to energy-inefficient real estate assets	Mandatory	New	New

Limited variability in data vendors

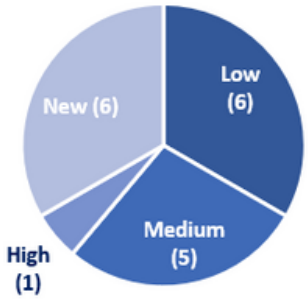


Figure 1: Variability in data vendors for mandatory Principal Adverse Impact Indicators[16]

As detailed in figure 1, the majority of adverse impact indicators regarding greenhouse emissions are likely to be sourced from a limited number of data vendors. Although the number of data vendors could increase over time, financial market participants will have to depend on a few vendors for greenhouse emissions data. This might be reflected in the sourcing costs of this data.

Expected data sourcing difficulties

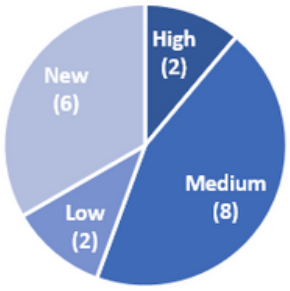


Figure 2: Data sourcing difficulties for mandatory Principal Adverse Impact Indicators[15]

As detailed in figure 2, data on greenhouse gas intensity and the gender pay gap are likely to be particularly difficult to source for financial market participants. The limited variability in data vendors is an additional challenge in that regard. In order to provide more context to the limited variability of data vendors and data sourcing difficulties, an example of calculations and challenges behind greenhouse gas footprints is included on the following page.

Data sourcing appears to be more challenging for voluntary Principal Adverse Impact Indicators

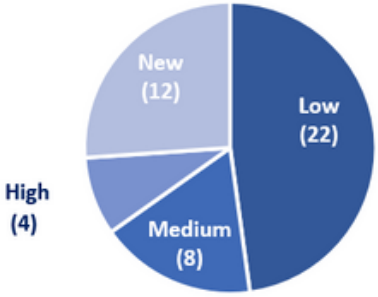


Figure 3: Variability in data vendors for mandatory Principal Adverse Impact Indicators[16]

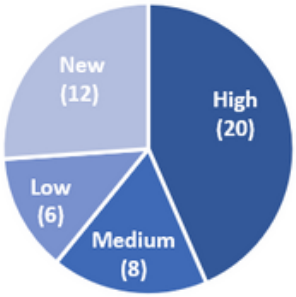


Figure 4: Data sourcing difficulties for voluntary Principal Adverse Impact Indicators[15]

SOLUTION-BASED APPROACH

EXAMPLE OF DATA CHALLENGE

To give more insight in the challenges behind calculations of these indicators, this white paper presents an example of calculating greenhouse gas footprints. This footprint is calculated using the following formula, in which i represents variables of the investee company:

$$\sum_{n}^{i}\left(\frac{\frac{Current\ value\ of\ investment}{Enterprise\ value_i}\cdot Scope\ 1{,}2\ and\ 3\ greenhouse\ gas\ emissions_i}{Current\ value\ of\ all\ investments}\right)$$

To calculate the three scopes of greenhouse gas emissions, we should look at the definitions of the respective scopes. The first scope entails emissions from sources owned by the reporting financial market participant, such as company buildings and vehicles for employees. The second scope concerns indirect reporting of emissions of upstream activities, such as utility costs. If not presently available, data regarding this scope might be relatively easier to gather since it concerns data from sources owned by the company or from sources that usually report sustainability data.

The challenging scope is the third one, which concerns emissions from both upstream and downstream activities throughout the value chain (e.g., purchased goods and services, capital goods, leased assets, transportation and distribution, franchises, and investments). Obtaining greenhouse gas data for these activities is challenging, especially when the data can only be sourced from specialised data providers (i.e., energy labels, water pollution, etc.). For asset managers, this challenge is likely to present itself for small-cap and mid-cap holdings. Although it is necessary for financial market participants to report on these holdings as well, it is not likely that full data coverage will be obtained prior to the first reporting deadline. Therefore, disclosing information on the efforts taken to obtain the highest possible data coverage is required.

In conclusion, Principal Adverse Impact Indicators for investee companies (aggregated at entity level) pose a significant data challenge for both financial market participants and throughout their value chain. More eloquently, requirements imposed by Sustainable Finance Regulation for financial market participants trickle down the value chain. Specialised data providers will see the demand for Adverse Impact Indicator related data increase substantially and will have to play a facilitating role in this challenge for the foreseeable future. For financial market participants, obtaining the highest possible data coverage and disclosing information on the efforts taken to obtain that level will be their primary challenge.

POTENTIAL APPROACH MOVING FORWARD WITH RESPECT TO DATA COVERAGE

Obtaining the highest possible data coverage and disclosing information on the efforts taken to obtain that level will be the primary challenge for financial market participants. A three-step approach for obtaining the highest possible data coverage and how to comply without having to source all data real-time are described in this section, whereas guidelines for disclosing of information is outlined on the next page. To note, the maturity of regulation, effort, time, and budget should be taken into consideration in the three-step approach described below.

Comprehensive estimation and proxy approach for historic and current data gathering

Since the level of detail remains to be implemented through second level regulatory technical standards, financial market participants could save time, effort, and budget by utilising an intermediate solution. Requirements and guidelines with respect to data gathering are released throughout time, which leads market participants to use a best-effort approach in complying to data gathering requests. Realistically, firms will not be able to adhere to the full extent of sustainability data requested. However, impact analyses on applicable portfolios and business processes should have started already. By creating and calculating a proxy approach on historical data, a standard methodology for the current data could be formed. For illustrative purposes, this could be a country-sector proxy for missing data relating to Principal Adverse Impact Indicators (i.e., product type, etc.).

Collecting and documenting of data at the source

Even though financial market participants are not able to adhere to data gathering requirements immediately, it is urged to start gathering data at the source where possible. The implementation should start with data that could be requested from other organisations and potentially end-consumers. Subsequently, an investigation on critical data elements could lead to a set of elements that could already be implemented and sourced. This results in a more accurate calculated and data delivery for the current data and data moving forward. Examples of data fields for this step could be energy labels and their validity for portfolio holdings.

Implementing an interface with a suitable data vendor

In the process of regulations becoming clearer, data requirements and process requirements will be fully implemented for financial market participants. Therefore, interfaces and organisations could be investigated for complying to data requests for Sustainable Finance Regulation going forward. Creating an interface is a time-consuming and costly process that should only be created with the regulation and critical data elements are fully known and implemented. At the time of writing, the market already provides a number of third data vendors that could help facilitate this process.

SOLUTION-BASED APPROACH WITH RESPECT TO SOUND MANAGEMENT STRUCTURES

Establishing sound management structures to facilitate a proper audit trail should be a priority for financial market participants. This could be done through drafting and implementing Sustainability Risk and Adverse Impact policies, subsequently reporting through these governance, data, and methodology guidelines. Other than to help facilitating a proper audit trail, policies help management to set the right tone with regards to sustainability and climate risk.

Establish sustainability and climate risk policy suites to facilitate monitoring and reporting

These policies, standards and procedures ensure a proper audit trail, highlight dependencies on third parties (i.e.: data providers) and ultimately facilitate the monitoring and reporting of the aforementioned risks. Involving various departments in the drafting process of these policies help to create internal support. Moreover, asset managers are required to incorporate these policies in their decision-making during portfolio construction.

Update remuneration policies

Updating remuneration policies to align with sustainability targets should decrease risks of greenwashing, mis-selling and misrepresentation of investment strategies. In practice, these policies should discourage risk-taking and decision-making that is not consistent with sustainability profiles. Engaging in constructive dialogue and maintaining relations with employees is important in this process.

Draft engagement policies, references to international standards and disclosures towards end-investors

The aforementioned reporting requirements are created to ensure transparency and comparability of sustainability profiles for end-investors. Engagement policies and disclosures would facilitate this.

Create awareness of data challenges and reporting requirements

Opting to market funds as 'light green' or 'dark green' has consequences for external stakeholders throughout the supply chain. Explaining the purpose of change to internal stakeholders and creating awareness for future change might help to identify future challenges at an early stage.

Take a broader view on climate risks

When reviewing internal governance in the context of Sustainable Finance Regulation, it makes sense to start by assessing how climate risk impacts existing strategies, for example through[17]:

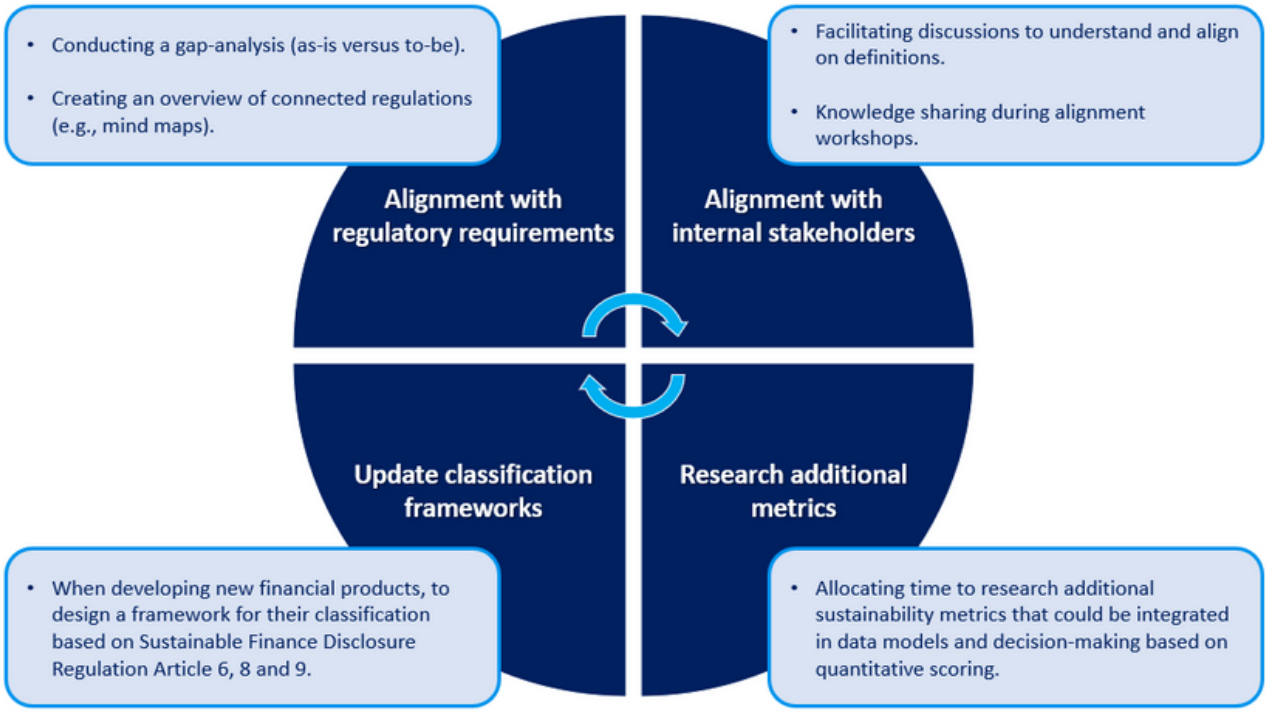
- Physical risk, defined as the one-off events impacting valuation risk of a portfolio.
- Transition risk, defined as the risk of transitioning to a low carbon economy. This type of risk could result in regulation, market, and technology risk.
- Liability risk, defined as the risk of investors potentially challenge financial market participants on inadequate disclosures or greenwashing.
- Asset transition risk, defined as a consideration for industries that could be negatively affected by the sustainability movement

Moreover, integrating Climate Scenario Analysis to understand potential future climate impact of investment decisions could be part of this assessment.

EXPECTED CHALLENGES IN ALIGNING TO REGULATORY REQUIREMENTS AND INTERNAL STAKEHOLDERS

- Differences in interpretation of terminology between stakeholders.
- Lack of available sustainability data, likely more severe for small-cap and mid-cap holdings.
- Availability and time management might prevent the required holistic approach. Internal stakeholder management is therefore a key to success.
- As Johan Cruijff once said: 'It is simple. You are either on time or you are too late. If you are too late, you should have left earlier'. Although the first report is due at the end of June 2023, time pressure could play a role.

SOLUTIONS AND TOOLS FOR EXPECTED CHALLENGES



ABOUT THE AUTHOR

JOOST VAN SCHERPENZEEL

Joost is the author of this paper and is currently working on projects in Collateral Management, Market Risk Management and the implementation of Definition of Default in teams consisting of both senior and junior CubeMatch consultants.

He joined the CubeMatch Benelux Team in June 2021.

During his internship in a major bank, he researched the added value of Tactical Asset Allocation and worked in the field of Merger Arbitrage at a Capital Management Firm.

Joost recently graduated Cum Laude from Tilburg University with an MSc in International Management and won the 'Best Thesis Award' for his research on Completion Risk in Mergers and Acquisitions.

CONTACT

JOOST VAN SCHERPENZEEL
Business Consultant
Joost.van.scherpenzeel@cubematch.com

CUBEMATCH BENELUX
Willem Fenengastraat 2E, 1096 BN Amsterdam
+31 85 486 1021
Benelux@cubematch.com
www.cubematch.com

REFERENCES

- 1 | Financial Conduct Authority (2021, June 30). Enhancing climate-related disclosures by asset managers, life insurers and FCA-regulated pension providers, retrieved from: *https://www.fca.org.uk/publications/policy-statements/ps-21-24-climate-related-disclosures-asset-managers-life-insurers-regulated-pensions*
- 2 | Alternative Investment Fund Manager Directive (Regulation EU) No 1095/2010 Article 42.
- 3 | Deloitte (2021). Sustainable Finance Disclosure Regulation, is the financial industry ready for the Big One?, retrieved from *https://www2.deloitte.com/content/dam/Deloitte/lu/Documents/sustainable-dev/lu-sustainable-finance-disclosure-regulation.pdf*
- 4 | Regulation (EU) 2019/2088. On sustainability-related disclosures in the financial services sector. European Parliament, Council of the European Union. *https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:02019R2088-20200712&from=EN*
- 5 | KPMG (2021, March 11), Sustainable Finance Disclosure Regulation Webinar, retrieved from: *https://home.kpmg/nl/nl/home/insights/2021/03/sfdr-webinar.html*
- 6 | Sustainable Financial Disclosure Regulation (EU) No 2019/2088 Article 8.
- 7 | Sustainable Financial Disclosure Regulation (EU) No 2019/2088 Article 9.
- 8 | J.P. Morgan (2021, June 30) Explaining the European Union Sustainable Finance Disclosure Regulation(EU SFDR), retrieved from: *https://am.jpmorgan.com/kr/en/asset-management/institutional/investment-strategies/sustainable-investing/understanding-SFDR/*
- 9 | MSCI (2021, March). A Proposed Mapping to Key Article 6, 8 and 9 Distinctions – Framework based on MSCI Client Feedback, retrieved from: *https://www.msci.com/documents/1296102/23003857/SFDR_Proposed+Article+6-8-9+Mapping+Framework_Analysis+of+MSCI+ESG+Indexes.pdf*
- 12 | BIQH (2021, August 25). Sustainable Finance Disclosure Regulation: the indicators in detail, retrieved from: *https://www.biqh.com/blog/sfdr-the-indicators-in-detail/*
- 13 | Deloitte (2021). Sustainable Finance Disclosure Regulation, is the financial industry ready for the Big One?, retrieved from: *https://www2.deloitte.com/content/dam/Deloitte/lu/Documents/sustainable-dev/lu-sustainable-finance-disclosure-regulation.pdf*
- 14 | Irish Funds (2020, February 5). Sustainable Finance Disclosure Regulation Webinar, retrieved from: *https://irishfunds-secure.s3.amazonaws.com/1612868407-2020.02.05-SFDR-webinar-slides-FINAL.pdf*
- 17 | Deloitte (2021). SFDR data challenges, opportunities and ESG datalab, retrieved from:*http://www2.deloitte.com/content/dam/Deloitte/ie/Documents/Audit/SFDR%20Data%20challenges%20opportunities%20and%20ESG%20Datalab%20(1).pdf*

APPENDIX I: SUSTAINABLE FINANCE REGULATION, CURRENT FOCUS AND UNDER DEVELOPMENT

Table 7: Purpose of prioritised regulations

Prioritised regulations	Description of purpose
European Union Taxonomy (mitigation and adaptation)	Introducing a system for classifying whether investments are sustainable.
Non-Financial Reporting Directive (NFRD)	Explaining the impact of sustainability considerations on business models, strategies, governance and risk management. Guidelines on other sustainability fields such as biodiversity and human rights are expected in the near future.
EBA Guidelines on Loan Origination and Monitoring (LOM), implementation of sustainability guidance	Improving practices and associated governance structures, processes and mechanisms in relation to credit granting.
ECB Guide on Climate and Environmental Risk	Explaining how the ECB expects financial market participants to consider climate-related and environmental risks with formulating and implementing their business strategy, governance and risk management frameworks and disclose these risks in a transparent manner.
Sustainable Finance Disclosure Regulation	Set of regulations that aim to make sustainability profiles more transparent and comparable for end-investors.

Table 8: Purpose of regulations in development

Regulations in development	Description of purpose
Markets in Financial Instruments Directive (MiFID) II, implementation of sustainability guidance	Introducing suitability assessments by financial advisors referring to the sustainability preferences of their end-investors.
European Union Taxonomy (remaining objectives)	Detailing the system for classifying whether investments are sustainable.
European Union Ecolabel	Introducing an ecolabel for financial products, which is very much in development.
Benchmark Regulation (BMR)	Improving governance of the benchmark process, quality of input data, methodology of benchmarks and transparency towards end-investors.
EBA Action Plan on Pillar 3 disclosures	Explaining how climate-related risks impact the balance sheet of financial market participants through (consolidated) regulatory reporting.
European Union Green Bond Standard	Introducing a uniform standard for green bonds in the European Union.

APPENDIX II: DATA CHALLENGE FOR OPTIONAL PRINCIPAL ADVERSE IMPACT INDICATORS

Table 9: Environmental indicators applicable to investments in investee companies

	Principal Adverse impact indicator	Mandatory or optional?	Data sourcing difficulty[15]	Variability in data vendors[16]
Emissions	Emissions of inorganic pollutants	Optional	High	Low
	Emission of air pollutants	Optional	High	Low
	Ozone depletion substances	Optional	High	Low
	Carbon emission reduction initiatives	Optional	Low	Medium
Energy	Energy consumption by non-renewable sources	Optional	New	New
Water, waste and material emissions	Water usage and recycling	Optional	High	Low
	Water management policies	Optional	Medium	Medium
	High water stress	Optional	High	Low
	Companies producing chemicals	Optional	New	New
	Land degradation	Optional	High	Low
	Sustainable land	Optional	High	Low
	Sustainable oceans	Optional	High	Low
	Non-recycled waste	Optional	High	Low
	Natural species and protected areas	Optional	High	Low
	Deforestation	Optional	Medium	Low
Green securities	Securities not certified as green	Optional	High	Low

Table 10: Environmental indicators applicable to investments in sovereigns and supranationals

	Principal Adverse impact indicator	Mandatory or optional?	Data sourcing difficulty[15]	Variability in data vendors[16]
Green securities	Securities not certified as green	Optional	High	Low

Table 11: Environmental indicators applicable to investments in real estate assets

	Principal Adverse impact indicator	Mandatory or optional?	Data sourcing difficulty[15]	Variability in data vendors[16]
Greenhouse gas emissions	Greenhouse gas emissions	Optional	Medium	Low
Energy	Energy consumption intensity	Optional	Medium	Low
Waste	Waste production in operations	Optional	New	New
Resource	Raw materials consumption for new construction	Optional	New	New
Biodiversity	Land artificialization	Optional	New	New

APPENDIX II:
DATA CHALLENGE FOR OPTIONAL PRINCIPAL ADVERSE IMPACT INDICATORS

Table 12: Social indicators applicable to investments in investee companies

	Principal Adverse impact indicator	Mandatory or optional?	Data sourcing difficulty[15]	Variability in data vendors[16]
Social and employee matters	Workplace accident policies	Optional	Low	High
	Accidents	Optional	High	Low
	Injuries	Optional	High	Low
	Supplier code of conduct	Optional	High	Medium
	Grievance or complaints	Optional	High	Medium
	Whistleblower protection	Optional	Low	Medium
	Discrimination	Optional	High	Low
	Chief Executive Officer pay ratio	Optional	Medium	Low
Human rights	Human rights policy	Optional	Low	High
	Human rights due diligence	Optional	Low	High
	Human trafficking	Optional	Medium	Low
	Child labour	Optional	Medium	Medium
	Forced or compulsory labour	Optional	Medium	Medium
	Human rights	Optional	High	Low
Anti-corruption and anti-bribery	Anti-corruption and bribery policies	Optional	Low	High
	Anti-corruption and bribery action	Optional	High	Medium
	Anti-corruption and bribery fines and convictions	Optional	High	Low

Table 13: Social indicators applicable to investments in sovereigns and supranationals

	Principal Adverse impact indicator	Mandatory or optional?	Data sourcing difficulty[15]
Social	Income inequality	Optional	New
	Freedom of expression	Optional	New
Human rights	Human rights performance	Optional	New
Governance	Corruption	Optional	New
	Non-cooperative tax jurisdictions	Optional	New
	Political stability	Optional	New
	Rule of law	Optional	New

HOW CUBEMATCH CAN HELP

- **WHO WE ARE**

Founded in **2002**, CubeMatch is a **global change and transformation consultancy**, specialising in **Financial Services** and selected as the **chosen partner** for some of the largest and most demanding transformation projects within the Financial Services sector.

CubeMatch is an international brand continuously expanding with **six offices** worldwide : **Dublin, London, Amsterdam, Frankfurt, Singapore and Chennai**. Combining our world class expertise in Financial Services with our rich capabilities in all aspects of change and transformation, we apply a **Multiplier Effect**, helping clients to be more effective today while creating value for tomorrow.

We are **Banking Native**; it runs through our **DNA**. Unlike more general change consultancies, this banking intimacy means we deliver change and transformation programmes that stick, against a backdrop of complex regulations and continuous disruption.

Over the years, we have successfully built a global firm that is uniquely equipped to deliver pragmatic and business-focused results. We have over **150 staff and multi-million euro revenue**. And through our **strategic partnerships** we apply innovation to help organisations operate, compete and deliver at scale. Blending our powerful change capabilities with next generation technology, we deliver **innovation and business agility** to help businesses thrive.

- **OUR GLOBAL SERVICES**

Strategic Change and Programme Delivery

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Visit our website : www.cubematch.com

CubeMatch (Ireland) Ltd
+353 1 253 0020
Ireland@cubematch.com

CubeMatch Ltd (UK)
+44 20 3004 8098
UnitedKingdom@cubematch.com

CubeMatch B.V. (Benelux)
+31 85 486 1021
Benelux@cubematch.com

Other Locations
CubeMatch GmbH (Germany): Germany@cubematch.com
CubeMatch APAC Pte Ltd (Singapore): Singapore@cubematch.com
CubeMatch Claritaz (India): India@cubematch.com

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